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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/702,308	11/06/2003	Vladimir Alexandrov Shurbanov	BBNT-P01-071	7999
28120 7590 05/16/2007 FISH & NEAVE IP GROUP ROPES & GRAY LLP ONE INTERNATIONAL PLACE BOSTON, MA 02110-2624			EXAMINER CHO, HONG SOL	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 05/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/702,308		SHURBANOV ET AL.	
	Examiner		Art Unit	
	Hong Cho		2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-15 and 18-21 is/are rejected.
- 7) ☒ Claim(s) 3,4,16 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

1. Claims 5, 7, 8-11, 18, 20 and 21 are objected to because of the following informalities:

Re claim 5, "the flood packet" should read - - the flood packet with the attached header - - .

Re claim 7, line 2, "the flood packet" should read - - the flood packet with the attached header - - .

Re claim 7, line 4, "the flood packet" should read - - the flood packet without the attached header - - .

Re claims 8 and 9, "the flood packet" should read - - the flood packet without the attached header - - .

Re claims 10, 11, 20 and 21, "the flood packet" should read - - the flood packet with the attached header - - .

Re claim 18, line 2, "the flood packet" should read - - the flood packet with the attached header - - .

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7-10, 12, 13, 15, 20, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Gleeson et al (US 5959989), hereinafter referred to as Gleeson.

Re claims 1, 12, 13 and 22, Gleeson discloses generating a frame (*generating a flood packet*, figure 4a, element 402a), selecting one of intermediate nodes (*one or more relays*, figure 2a, elements 220-223) to distribute a frame (*selecting/identifying one or more of the nodes as a like number of one or more relays*, column 14, lines 26-26), receiving the frame (*receiving the flood packet*) and adding multicast virtual local area network (MVLAN) identifier (ID) (MVLAN ID) to the frame to create a multicast frame (*the flood packet with the attached header*, figure 4d, element 402d), where the multicast frame is distributed based on MVAN ID (*attaching a header to the flood packet, the header instructing the one or more relays to which of the nodes to send the flood packet*, column 13, lines 63-67), receiving the multicast frame at one of intermediate devices (*sending the flood packet with the attached header to the one or more relays*, column 14, lines 13-16).

Re claims 2 and 15, Gleeson discloses generating a single loop-free path by using spanning tree algorithm that connects every LAN associated with each VLAN designation, which may differ from the spanning tree defined for a second VLAN designation (*building a minimum spanning tree that covers an n-hop neighborhood of*

one of the nodes that generated the flood packet and using the minimum spanning tree to identify the one or more relays, column 16 line 64 to column 17, line 6).

Re claim 7, Gleeson discloses receiving the multicast frame at one of intermediate nodes (*receiving the flood packet at one of the one or more relays as receiving relay, column 14, lines 14-16*), stripping off MVAN ID (*extracting the attached header, column 14, lines 23-24*), and transmitting the frame stripped off the MVAN ID to subscribing entities (*retransmitting the flood packet from the receiving relay to one or more other ones of the nodes, column 14, lines 24-26*).

Re claim 8, Gleeson discloses duplicating the flood packet when the packet is transmitted to subscribing entities (column 14, lines 34-36).

Re claim 9, Gleeson discloses identifying another immediate device and sending the packet to the immediate device (*identifying one or more other nodes as one or more additional relays and sending the flood packet to the one or more additional relays, column 15, lines 3-5*).

Re claims 10 and 20, Gleeson discloses sending a unicast message (column 3, lines 6-8).

Re claim 12, Gleeson discloses an intermediate device transmitting the frame stripped off the MVAN ID to subscribing entities (*retransmitting the flood packets from one or more relays such that each if the nodes in the network receives one copy of the flood packet, column 14, lines 23-26*).

Re claim 23, Gleeson discloses an intermediate device receiving a multicast frame (*receiving a flood packet at a first one of the nodes, column 14, lines 115-16*), stripping

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off the MVAN ID from the multicast packet (*determining whether the flood packet includes an attached header and extracting the header when the flood packets includes the header*, column 14, lines 23-24), where the multicast frame is distributed based on MVAN ID (*the header identifying one or more second nodes to which the first node is to transmit the flood packet*, column 14, lines 20-23), and transmitting the frame stripped off the MVAN ID to subscribing entities (*retransmitting the flood packets to the one or more second nodes based at least in part on the extracted header*, column 14, lines 23-26).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 6, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson in view of Nomura (US 6628929).

Re claims 5, 6, 18 and 19, Gleeson discloses all of the limitations of the base claim, but fails to disclose setting a transmission power for the flood packet based on a distance to a farthest one of the one or more relays. Nomura discloses adjusting transmission power in accordance with a distance between a mobile station and a radio base station (column 1, lines 39-41). It would have been obvious to one having ordinary

skill in the art at the time the invention was made to modify the system of Gleeson by adding to it the feature of adjusting transmission power for use in wireless communications for the benefit of reaching out the farthest node in a given network.

Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson in view of Sampath et al (US 20030174719), hereinafter referred to as Sampath.

Re claims 11 and 21, Gleeson discloses all of the limitations of the base claim, but fails to disclose transmitting the flood packet as a broadcast transmission. Sampath discloses sending a broadcast packet by utilizing an opcode field in the header of a packet (paragraph [0048], lines 5-7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the packet of Gleeson to be broadcast packet so that the packet would be flooded to all members of the associated VLAN.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson in view of Tamaki et al (US 20030124976), hereinafter referred to as Tamaki.

Re claim 14, Gleeson discloses all of the limitations of the base claim, but fails to disclose having at least one of a directional antenna and an omni-directional antenna. Tamaki discloses a plurality of antennas (figure 3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of system of Gleeson by adding to it the feature of using directional antennas for use in wireless communications for the benefit of improving the quality of reception signal.

Allowable Subject Matter

6. Claims 3, 4, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 3 and 16 are allowable.

The following is an examiner's statement for reasons for allowance.

8. Claims 3 and 16 are allowable over the prior art of record since the cited references taken individually or in combination fail to particularly teach or fairly suggest identifying the difference between a first relay configuration and a second relay configuration, comparing the difference between the first relay configuration and the second relay configuration to a threshold and updating the second relay configuration with the first relay configuration when the difference is above the threshold.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hc
Hong Cho
Patent Examiner
5/14/07